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C-O-N-F-I-D-E-N-T-I-A-L

INFORMATION REPORT

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SOURCE [redacted] 50X1

1.

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. This paper is of value in elucidating the path of reaction(s) of a single cyclopentane over both Ru and Pd catalysts.

2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. The reaction product analyses are performed in elaborate detail (by well-known methods and at fixed operating conditions) to spotlight catalyst differences.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. Techniques and equipment were of usual type. Paper fails on catalyst-testing count in that no description of catalyst preparations are given.

4) Q. What were the author's investigative techniques?

A. Hydrocarbon product analyses conducted in runs using experimental catalysts in a pressure reactor. Analyses: distillation, physical properties, Raman spectra for isomers.

5) Q. What implications has this paper for the Soviet defense or war effort?

MAR 2 6 1955

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A. The search for possible reforming catalysts for the production of high octane gasoline or aromatics is active in the USSR. This paper is typical of some of those in the US from academic sources, but it is unusually fragmentary.

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. It is on a par with that in the US.

7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. No. None is cited either. Possibly a language barrier there, or the slighting is intentional.

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Yes. No point is stretched.

9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Yes. Reforming - catalyst testing.

10) Q. Does the paper appear to be original with the author, or is the material taken from other sources? If the latter, what sources?

A. Original presumably.

12) Q. Do the conclusions follow readily from the discussion?

A. Yes.

13) Q. Is the presentation "scientifically honest?"

A. Yes.

14) Q. What implications, if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. On the same level.

15) Q. What implications, if any, does this paper have in regard to Soviet general knowledge?

A. The lack of reference to any Western literature indicates a shrouding of Soviet investigators.

16) Q. Can you give any information as to the author's scientific reputation?

A. I have no familiarity with the authors through the Russian references. They list no references of their own earlier than 1951.

2. Polarographic Study of the Hydrogenation Process, by AL Markman
J Gen Chem USSR 23 (10) 1622-28 (1953)

1) Q Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A This reader is not well-versed in either hydrogenation or polarography; as a result, most of the questions here cannot be given useful answers. This paper was scanned to determine whether analytical techniques used could be applied to work on hand.

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2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. To this reader, no.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. See (1) above.

4) Q. What were the author's investigative techniques?

A. Application of polarographic analysis to determination of selectivity of hydrogenation of unsaturated compounds, eg, fumaric, maleic, and oleic acids.

5) Q. What implications has this paper for the Soviet defense or war effort?

A. To this reader, none.

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. See (1) above.

7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. He is apparently familiar with Western work in his field. (This reader is not familiar with hydrogenation literature.)

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Yes.

9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Seem to be quite specific.

10) Q. Does the paper appear to be original with the author or is the material taken from other sources? If the latter, what sources?

A. Original.

11) Q. Do the conclusions follow readily from the discussion?

A. Yes.

12) Q. Is the presentation "scientifically honest"?

A. Yes.

13) Q. What implications if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. See (1) above.

14) Q. What implications, if any, does this paper have in regard to Soviet general knowledge?

A. See (1) above.

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15) Q. Can you give any information as to the author's scientific reputation? If so, please indicate.

A. No.

3. Polarographic Study of the Hydrogenation Process.
AL Markman
J Gen Chem USSR 23 (11) 1960-64 (1953)

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. This reader is not familiar with the fields of polarography and hydrogenation; answers given here should be treated as of limited usefulness. The paper was scanned only for a description of polarographic techniques of analysis.

2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. No.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. Nothing unique or drastically advanced.

4) Q. What were the author's investigative techniques?

A. Determination of relative rates of hydrogenation of maleic and fumaric acids with two catalysts under a very limited range of conditions.

5) Q. What implications has this paper for the Soviet defense or war effort?

A. ?

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. ?

7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. Several Western references, none later than 1930.

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Yes.

9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Apparently not.

10) Q. Does the paper appear to be original with the author, or is the material taken from other sources? If the latter, what sources?

A. Original.

11) Q. Do the conclusions follow readily from the discussion?

A. Yes.

12) Q. Is the presentation "scientifically honest"?

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A. Yes.

13) Q. What implications if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. ?

14) Q. What implications, if any, does this paper have in regard to Soviet general knowledge?

A. ?

15) Q. Can you give any information as to the author's scientific reputation? If so, please indicate.

A. No.

4. Contact Catalytic Conversion of Alkanes and Cyclanes at Elevated Temperatures and Hydrogen Pressures
NI Shuikin, SS Novikov and IG Berdnikova
Doklady Akad Nauk USSR 89, (6) 1029-32 (1953)

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. Extended the knowledge of catalytic dehydrogenation of saturates to a small extent.

2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. The information is new, but is significant only in extending a large body of existing knowledge.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. No.

4) Q. What were the author's investigative techniques?

A. Not obvious from the article. Parenthetically, the analytical data presented are limited.

5) Q. What implications has this paper for the Soviet defense or war effort?

A. Indicates that Soviet knowledge of the catalytic reforming process for octane improvement or aromatics production is probably nearly on a par with that of the US.

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. See answer to (5).

7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. Not explicitly.

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. The data agree reasonably well with similar data from US sources.

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9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. See answer to (5).

10) Q. Does the paper appear to be original with the author, or is the material taken from other sources? If the latter, what sources?

A. Original.

11) Q. Do the conclusions follow readily from the discussion?

A. Paper reports laboratory results only.

12) Q. Is the presentation "scientifically honest"?

A. Apparently.

13) Q. What implications if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. See answer to (5).

14) Q. What implications if any, does this paper have in regard to Soviet general knowledge?

A. See answer to (5).

15) Q. Can you give any information as to the author's scientific reputation? If so, please indicate.

A. No.

5. The Dynamics of Evaporation of Ideal Multicomponent Liquid Mixtures.
LI Rubenstein
Doklady Akad. Nauk USSR 90, 987-90 (1953)
Eng Translation, US Atomic Energy Commission NSF-tr-129 (1953)

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. Not fundamental. Useful only as an auxiliary aid in a special field of technology.

2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. Application of well known principles to a special and limited problem of interest in distillation practice.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. No experimental techniques.

4) Q. What were the author's investigative techniques?

A. ----

5) Q. What implications has this paper for the Soviet defense or war effort?

A. Relatively little.

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. No.

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7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. I am not acquainted with literature in this field myself.

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Work seemed competent. Since subject matter turned out not to be what I expected, I didn't read the paper with any care.

9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. I believe not.

10) Q. Does the paper appear to be original with the author, or is the material taken from other sources? If the latter, what sources?

A. Treatment original, but no new ideas.

11) Q. Do the conclusions follow readily from the discussion?

A. Didn't read carefully enough to know.

12) Q. Is the presentation "scientifically honest"?

A. Appears to be.

13) Q. What implications, if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. Don't know this field myself.

14) Q. What implications, if any, does this paper have in regard to Soviet general knowledge?

A. None.

15) Q. Can you give any information as to the author's scientific reputation? If so, please indicate.

A. No idea.

6. Elastic and Strength Properties of Greases
GV Vinogradov and MM Gvozdev
Doklady Akad Nauk USSR 86, (2) 341-44 (1952)

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. Further application of a previously reported technique to additional materials and at slightly different experiment conditions.

2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. No.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. No unique features described—has limitations typical of rotary viscometers with grease samples.

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4)Q. What were the author's investigative techniques?

A. Determining rate of rotation of cylinder in grease when it is rotationally loaded by a torsion wire at a uniform rate.

5) Q. What implications has this paper for the Soviet defense or war effort?

A. Very little.

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. Some—investigating a fundamental property of greases.

7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. Yes.

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Hard to decide—language of translation confusing and assumption of acquaintance with previous papers is made.

9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Technique could be used in other Bingham body materials—clay, jelly, asphalt (?).

10) Q. Does the paper appear to be original with the author, or is the material taken from other sources? If the latter, what sources?

A. Appears original.

11) Q. Do the conclusions follow readily from the discussion?

A. See (8) above.

12) Q. Is the presentation "scientifically honest"?

A. Apparently.

13) Q. What implications if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. In this limited field the "art state" seems even with other countries.

14) Q. What implications, if any, does this paper have in regard to Soviet general knowledge?

A. ----

15) Q. Can you give any information as to the author's scientific reputation? If so, please indicate.

A. No.

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7. On the Problem of Orientation of the Tert-Butyl Group During Introduction into the Aromatic Ring.
VM Rodioviov, VN Belov, and SA Kore
J Gen Chem USSR, 23 (11) 1802-1808 (1953)

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. Poor.

2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. Their results do not check with ours or with their reports in the literature.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. Yields are lower than they should have been in the reactions described.

4) Q. What were the author's investigative techniques?

A. Archaic classical organic.

5) Q. What implications has this paper for the Soviet defense or war effort?

A. None.

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. This particular paper is not good, other papers in the field by other Russian authors indicate good basic understanding.

7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. Yes, he cites several American references, but was apparently unaware of a number of pertinent references.

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. No, mainly because "data" is not.

9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Apparently not.

10) Q. Does the paper appear to be original with the author, or is the material taken from other sources? If the latter, what sources?

A. Original.

11) Q. Do the conclusions follow readily from the discussion?

A. No.

12) Q. Is the presentation "scientifically honest"?

A. Yes.

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13) Q. What implications if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. None.

14) Q. What implications, if any, does this paper have in regard to Soviet general knowledge?

A. This paper is a bad example to take for this purpose.

15) Q. Can you give any information as to the author's scientific reputation?

A. No.

8. Slowed-Down Reactions of Thermal Decomposition of Organic Compounds.
DS Konovalov and EU Migotena
J App Chem (USSR) 25 (3), 291-5 (1953) English Translation

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. A review of the kinetics of thermal decomposition of lower paraffins in the light of a Raman theory that the reactions are slowed by a substance formed in the reactions.

2) Q. Does the paper contain information, data, or methodology which is scientifically new or significant? If so, in what way significant?

A. Mathematical treatment analogous to earlier Soviet treatments but somewhat different. Agreement between theory and experimental data is good.

3) Q. Can any inferences be drawn concerning the limitations or unique features of the experimental techniques and equipment utilized?

A. No experimental work performed; data taken from others.

4) Q. What were the author's investigative techniques?

A. Mathematical analysis based on their theory.

5) Q. What implications has this paper for the Soviet defense or war effort?

A. Applications of theory to description of processes occurring in petroleum cracking and combustion processes.

6) Q. Does the paper give any indication of the level of Soviet petrochemical research?

A. Only in regard to theoretical analysis , which appears good here, although analogous to earlier US work.

7) Q. Does the author give any indication of his knowledge of Western petrochemical literature?

A. Yes--Western articles cited anddata used therefrom.

8) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Yes; theory not proved, but correlations based on it agree with experimental data.

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9) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Yes; general field of chain reactions.

10) Q. Does the paper appear to be original with the author, or is the material taken from other sources? If the latter, what sources?

A. Original in its specific form, but analogous to ideas of other USSR and US workers.

11) Q. Do the conclusions follow readily from the discussion?

A. Yes.

12) Q. Is the presentation "scientifically honest"?

A. Yes.

13) Q. What implications, if any, can be drawn from this paper in regard to the state of the art in this field in USSR as compared to the rest of the world?

A. These workers have done good theoretical work, depending on experimental work of others, both in the USSR and West.

14) Q. What implications, if any;, does this paper have in regard to Soviet general knowledge?

A. Good in chain reactions.

15) Q. Can you give any information as to the author's scientific reputation? If so, please indicate.

A. Konovalov has published frequently on chain reaction in Soviet journals.

9. Corrosion of Iron in Contact with Gasoline or Kerosene and with an Aqueous Electrolyte Solution Containing Potassium Chromate Additive.
IV Krotov and TM Khachadurova
J Appl Chem USSR (English Translation) 26 (6), 561-6 (1953)

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. Very helpful to my particular problem which is related specifically to the above topic. Paper contained information not heretofore known to me, concerning the concentration variable of inhibitor in mitigating corrosion.

2) Q. Does the paper contain information, data, or methodology which is or was scientifically new or significant? If so, in what way significant?

A. See (1) above.

3) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Yes. Based upon evidence obtained from well-conceived experimental work.

4) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Specifically, applicable to the study of corrosion control.

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5) Q. Does the paper appear to be original with the author or is the material taken from other sources? If the latter, what sources?

A. Original work.

6) Q. Do the conslusions follow readily from the discussion?

A. Yes.

7) Q. Is the presentation "scientifically honest"?

A. Yes.

8) Q. What implications, if any, can be drawn from this paper in regard to the state of the art in this field in the USSR as compared to ehe rest of the world?

A. Comparable to our knowledge in this subject, at least as applied to petroleum chemistry.

9) Q. What implications, if any, does this have in regard to their general knowledge?

A. Only an indication that they have undertaken a study of corrosion control during storage of petroleum products.

10. Catalytic Oxidation of Ethylene on Magnesium Chromite,
L Ya Margolis and OM Todes
Bull Acad Sci USSR Div Chem Sci, No 1, 52 (1952)

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. The paper is a significant contribution to the mechanism of vapor phase catalytic oxidation.

2) Q. Does the paper contain information, data, or methodology which is or was scientifically new or significant? If so, in what way significant?

A. Yes. The results obtained for the relative amount of ethylene adsorbed and oxidized on the catalyst surface is new and gives an insight on the deactivation of catalysts of this type.

3) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Most of them. Especially if the author's definition of surface heterogeneity is related to the differential heats of adsorption, ie, a homogeneous surface is one in which the differential heat of adsorption is independent of surface coverage within the range considered.

4) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Yes.

5) Q. Does the paper appear to be original with the author or is the material taken from other sources? If the latter, what sources?

A. Paper seems to be original with the authors.

6) Q. Do the conclusions follow readily from the discussion?

A. Yes.

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7) Q. Is the presentation "scientifically honest"?

A. Seems to be.

8) Q. What implications, if any, can be drawn from this paper in regard to the state of the art in this field in the USSR as compared to the rest of the world?

A. Their knowledge of oxidation catalysts appears to be on the same level as the rest of the world.

9) Q. What implications, if any, does this have in regard to their general knowledge?

A. This contributes much to industries involved in or dependent on vapor phase oxidation processes.

11. "A Study of Oxygen Exchange on Vanadium Catalysts by the use of O^{18}"
and "Catalytic Oxidation of the Simplest Unsaturated Hydrocarbons"
Ya Margolis and EG Plyshevskaya
Bull Acad Sci USSR Div Chem Sci, No 3, 415 (1952);
No 4, 625 (1953)

These articles are by the same authors and the material in them is related, therefore the comments on one article pertains to the other article as well.

1) Q. Please give a general statement of the value of the paper as a scientific contribution at the time it was written.

A. These papers help to elucidate the mechanism for the oxidation of hydrocarbons over a V_2O_5 catalyst.

2) Q. Does the paper contain information, data, or methodology which is or was scientifically new or significant? If so, in what way significant?

A. Technique used to determine oxygen exchange is new as far as I know.

3) Q. Are the conclusions scientifically acceptable? If not, why not?

A. Yes.

4) Q. Are the results and/or techniques applicable to any other technical problems or fields?

A. Yes. Other type oxygen exchange between solids and vapors.

5) Q. Does the paper appear to be original with the author or is the material taken from other sources? If the latter, what sources?

A. Original with these authors.

6) Q. Do the conclusions follow readily from the discussion?

A. Yes.

7) Q. Is the presentation "scientifically honest"?

A. Yes.

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8) Q. What implications, if any, can be drawn from this paper in regard to the state of the art in this field in the USSR as compared to the rest of the world?

A. Their knowledge of vanadium oxides as an oxidation catalyst is equal to that of the free world.

9) Q. What implications, if any, does this have in regard to their general knowledge?

A. It indicates that the caliber of their research is improving or at least this published work is better than what I have been acquainted with.

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